Remarks

Entry of the amendments, reconsideration of the application, as amended, and allowance of all pending claims are respectfully requested. Upon entry of the amendments, claims 1, 5-10, 14-18, 20, and 24-28 are pending.

With the above amendments, applicants are distinctly claiming and particularly pointing out one or more features of their invention. These claim amendments are being provided to clarify applicants' invention and not in acquiescence to the rejections. Support for the amendments may be found throughout applicants' specification including, for instance, paragraphs 20, 26 and 33-34. Therefore, no new matter has been added.

Applicants gratefully acknowledge the time afforded applicants' attorney, Blanche Schiller, during a telephone conference on July 28, 2009 with Examiner Camquy Truong. During the telephone conference, the §101 rejection of claims 1, 10 and 20 were discussed, as well as the §103 rejection of claim 1. Examiner Truong indicated that the amendments should overcome the §101 rejection and the §103 rejection. Applicants are grateful for this acknowledgment.

In the Office Action, dated March 31, 2009, claims 1-28 are rejected under 35 U.S.C. 101. Without acquiescing to this rejection, applicants have amended the claims to recite a machine. Thus, applicants respectfully request withdrawal of the §101 rejection.

Additionally, claims 1, 4-7, 9-10, 13-16, 18-20, 23-26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deng et al. (2001/0039581) in view of Gerard (U.S. Patent No. 7,426,749); claim 8, 17 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deng et al. in view of Gerard and further in view of Vass (U.S. Patent No. 7,421,708); and claims 2-3, 11-12 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deng et al. in view of Gerard and further in view of Robinson (U.S. Patent No. 6,199,095). Applicants respectfully, but most strenuously, traverse these rejections to any extent deemed applicable to the amended claims.

In one aspect, applicants' invention is directed to facilitating allocation of resources in a heterogeneous computing environment. The heterogeneous computing environment includes at least one resource manager that is responsible for determining which nodes of the

environment can process a particular request. The scope of the nodes to be considered to process the particular request is greatly expanded since nodes that have different native environments than the request can be considered. These heterogeneous nodes can be considered, since they are capable of supporting other environments, although their native environments are different than those specified by the requests.

In one particular example, applicants claim a method of facilitating allocation of resources in a heterogeneous computing environment (e.g., independent claim 1). The method includes, for instance, obtaining, by a resource manager executing on a processor of the heterogeneous computing environment, one or more attributes relating to a node coupled to the resource manager, wherein the node is of the heterogeneous computing environment and is of a native architecture, and wherein the one or more attributes specify one or more non-native architectures supported by the node, the one or more non-native architectures being different than the native architecture; determining by the resource manager whether the node supports an architecture capable of executing a specific request, wherein the specific request specifies the architecture for the specific request that is different from the native architecture of the node; and allocating one or more resources of the node to the specific request, in response to the determining indicating the node supports the architecture of the request.

Thus, in this aspect of applicants' claimed invention, a resource manager obtains attributes relating to a node in which those attributes specify one or more non-native architectures supported by the node. That is, although the node is of one native architecture, it can also support one or more other non-native architectures. The resource manager determines whether the node supports an architecture that is capable of executing a specific request in which that specific request specifies the architecture for the request. In response to determining that the node supports the architecture of the request, which is different from the native architecture of the node, one or more resources of the node are allocated to the specific request. This is not described, taught or suggested in Deng or Gerard, either alone or in combination.

Deng describes a system for distributing incoming client requests across multiple servers in a network client-server computer environment. Although Deng describes resource capability information, which includes metrics for CPU, memory availability, connectivity to

servers and storage units, it does not describe attributes of non-native architectures, as claimed by applicants. That is, Deng fails to describe, teach or suggest, applicants' claimed feature of obtaining one or more attributes relating to a node coupled to a resource manager in which those attributes specify one or more non-native architectures supported by the node. Further, Deng fails to describe, teach or suggest determining whether the node supports an architecture to execute a specific request, in which that architecture is different than the native architecture of the node; and allocating resources of the node to the specific request in response to the determining indicating the node supports the architecture of the request.

Further, Gerard does not overcome the deficiencies of Deng. Gerard describes initiating execution of distractive computational units along with the execution of other computational units on an untrusted computer to inhibit the reconstitution of a computation by an untrusted party. Gerard does not describe, teach or suggest at least applicants' claimed elements of obtaining one or more attributes relating to a node coupled to a resource manager in which those attributes specify one or more non-native architectures supported by the node; determining whether the node supports an architecture to execute a specific request, in which that architecture is different than the native architecture of the node, and allocating resources of the node to the specific request in response to the determining indicating the node supports the architecture of the request. Since at least these aspects are missing from Gerard and from Deng, the combination of Deng and Gerard fail to describe, teach or suggest applicants' claimed invention, as indicated by Examiner Truang during the telephonic interview. Thus, applicants respectfully request an indication of allowability for independent claim 1.

Additionally, independent claim 10 is patentable over the combination of Deng and Gerard for similar reasons as described above. For instance, the combination of Deng and Gerard fails to describe, teach or suggest at least applicants' claimed feature of obtaining one or more attributes relating to a node coupled to a resource manager in which those attributes specify one or more non-native architectures supported by the node. Further, the combination fails to describe, teach or suggest determining whether the node supports an architecture to execute a specific request, in which that architecture is different than the native architecture of the node; and allocating resources of the node to the specific request in response to the determining indicating the node supports the architecture of the request. Thus, applicants respectfully request an indication of allowability for independent claim 10.

Moreover, independent claim 20 is patentable over the combination of Deng and Gerard for similar reasons as described above. For instance, the combination of Deng and Gerard fails to describe, teach or suggest at least applicants' claimed feature of obtaining one or more attributes relating to a node coupled to a resource manager in which those attributes specify one or more non-native architectures supported by the node. Further, the combination fails to describe, teach or suggest determining whether the node supports an architecture to execute a specific request, in which that architecture is different than the native architecture of the node; and allocating resources of the node to the specific request in response to the determining indicating the node supports the architecture of the request. Thus, applicants respectfully request an indication of allowability for independent claim 20.

For at least the above reasons, applicants respectfully submit that the independent claims are patentable over the combination of Deng and Gerard. Further, dependent claims are patentable for the same reason as the independent claims, as well as for their own additional features. The additional art cited does not overcome the deficiencies of Deng and Gerard.

Based on the foregoing, applicants respectfully submit that their invention is patentable over the cited references, and respectfully request an indication of allowability for all pending claims.

Applicants respectfully request a telephonic interview with the Examiner at the time the Examiner considers this Response, if the Examiner continues to have concerns over the claimed invention. An Applicant Initiated Interview Request Form is included herewith.

Respectfully submitted,

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